

REMARKS

The Office Action dated January 29, 2007 has been received and carefully noted. An RCE being filed herewith, the above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1, 17 and 33 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Claim 34 has been cancelled with prejudice or disclaimer. Claims 35-38 have been added. No new matter has been added. Claims 1-33 and 35-38 are submitted for consideration.

Claims 1-5, 12, 14, 16-21, 28, 30, and 32-34 were rejected under 35 USC §102(e) as being anticipated by U.S. Patent No. 6,434,389 to Meskanen (hereinafter Meskanen). The rejection is traversed as being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in claims 1-5, 12, 14, 16-21, 28, 30, and 32-34.

Claim 1, upon which claims 2-16 depend, recites a radio resource control method in a mobile communication system including camping, in an idle state, on a serving cell formed by a serving base station. The method also includes adjusting, in a network element of the mobile communication system, at least one element of the control information according to a predetermined time pattern including time elements having a characteristic profile in terms of the state of the mobile communication system, thus forming adjusted control information. The method further includes receiving, in the user equipment, control information for controlling cell change procedures of the user

equipment, the cell change being conducted from the serving cell to a target cell and performing, in the user equipment, the cell change procedures based on the received control information. The method also includes controlling the cell change procedures based on the adjusted control information, wherein at least one neighbor cell is formed by a neighbor base station and the user equipment capable of receiving signals from the base stations.

Claim 17, upon which claims 18-32 depend, recites a mobile communication system including a network part for providing the fixed infrastructure of the mobile communication system, the network part including a serving base station for forming a serving cell and a neighbor base station for forming a neighbor cell. The system includes a user equipment including a receiving device configured to receive signals from the serving base station and from the neighbor base station. The network part further includes a control device configured to control cell change procedures with control information, the cell change being conducted from the serving cell to a target cell. The user equipment further includes a cell change procedure device configured to perform cell change procedures based on control information received from the network part. The receiving device and the cell change procedure device are configured to camp on the serving cell in an idle state. The network part further includes an adjusting device configured to adjust at least one element of the control information according to a predetermined time pattern including time elements having a characteristic profile in

terms of the state of the mobile communication system, thus forming adjusted control information.

Claim 33 recites a network element of a mobile communication system, which includes a serving base station configured to form a serving cell and a neighbor base station configured to form a neighbor cell. The system also includes a user equipment camped on the serving cell in an idle state and including a receiving device configured to receive signals from the serving base station and from the neighbor base station. The user equipment further includes a cell change procedure device configured to perform cell change procedures based on control information and a control means device configured to control cell change procedures with control information. The cell change is conducted from the serving cell to a target cell. The network element further includes an adjusting device configured to adjust at least one element of the control information according to a predetermined time pattern including time elements having a characteristic profile in terms of the state of the mobile communication system, thus forming adjusted control information.

As outlined below, Applicants submit that the cited reference of Meskanen does not teach or suggest the all of the elements of the pending claims.

Meskanen relates to prioritizing special cells in cell selection in a cellular radio network. The mobile station measures an average reception level and calculates them by means of the cell selection parameters, on the basis of which the best cell is selected. When the mobile station detects that a cell is one of cells of a special cell list stored in a

memory, it checks first if the cell fulfils a minimum requirement of cell selection on the basis of the measured signal level. If the minimum requirement is fulfilled, the mobile station manipulates the calculation of the cell selection parameter of the special cell to the effect that the selection probability of the special cell is improved with respect to a normal cell. See at least the Abstract of Meskanen.

Applicants submit that Meskanen does not teach or suggest each of the elements recited in claims 1-5, 12, 14, 16-21, 28, 30, and 32-33. Each of the independent claims, in part, recites adjusting, before the control information is received, at least one element of the control information according to a predetermined time pattern including time elements having a characteristic profile in terms of the state of the mobile communication system, thus forming adjusted control information. Meskanen does not teach these features.

Col. 9, lines 15-18 of Meskanen discloses that the "time restrictions" is related to using "all normal cell selection restrictions" in conjunction with the cell preferences controlled by parameters from which parameter C2 is calculated. As an example of the cell selection restrictions, Meskanen discloses hysteresis, when the location area is changed, and time restrictions. Meskanen discloses that in this context, "all normal cell selection restrictions" should be considered as restrictions related to preventing the mobile terminal from being handed over to another cell immediately after one handover, that is, to prevent unnecessary handovers and increased signaling. As an example, Meskanen considers two neighboring cells providing signals at equal level and, due to dynamic fluctuations of the

signal levels, the best cell and the second best cell will change quickly all the time. Thus, Meskanen discloses that, without time restrictions and in-built hysteresis effects, the mobile would jump between cells with no benefit but only drawbacks, such as battery consumption, signaling, capacity usage. As a consequence, time restrictions in Meskanen are related to preventing the mobile terminal from making a second handover for a determined period of time after the first handover. This is a common feature in all cellular communication systems and standards. Therefore, Meskanen refers to "all normal" cell selection restrictions.

Moreover, Meskanen does not explicitly disclose that control parameters transmitted by the network (RXLEV__ACCESS_MIN, LSA_RXLEV_ACCESS_MIN, LSA_CAMPING_MARGIN) are changed according to the time restrictions. In other words, Meskanen does not explicitly disclose adjusting control information according to a predetermined time pattern, as recited in the pending claims.

In the present invention, on the other hand, the time patterns relate to a totally different issue. In the present invention, the control information is adjusted according to a predetermined time pattern, for example to force a handover of a mobile terminal, being in an idle state, to a cell providing a higher signal level in order to improve the performance of the mobile communication system. The adjustment is carried out as a function of time according to the predetermined time pattern.

As noted above, contrary to the present invention, Meskanen aims to use the time restriction to prevent additional handovers for a mobile terminal that was just handed

over. In Meskanen, the time restriction has a determined length during which the handover is prohibited. In other words, in Meskanen, the action is taken as a function of the occurrence of the handover of the mobile terminal and not as a function of time according to a predetermined time pattern.

According to the presently pending claims, the predetermined time pattern includes time elements relating to the state of the mobile communication system. The time element of the predetermined time pattern may be, for example, a certain time of day, such as day, night, rush hour or a time of a mass event, when the profile of the mobile communication system is known a priori at sufficient accuracy. The duration of the time element may vary from minutes to several days or weeks. A long-term time element may be for instance a holiday season during which the load in urban areas is usually lowered. The profile may include variables, such as an assumed capacity requirement and an assumed cell load, which can be predetermined at a sufficient accuracy for each time element, and according to which the performance of the mobile communication system can be optimized.

Meskanen simply discloses time restrictions which is used to prevent unnecessary handovers. Meskanen does not disclose that the time restriction could have, or be a part of, any characteristic profile related to the state of the communication system. In other words, Meskanen in no way discloses adjusting the control information as a function of time and according to a predetermined profile of the state of the mobile communication system, as recited in the pending claims. Based

on the arguments noted above, Applicant respectfully asserts that the rejection under 35 U.S.C. §102(e) should be withdrawn because Meskanen does not teach or suggest each feature of claims 1, 17, 33 and 34 and hence, dependent claims 2-5, 12, 14, 16, 18-21, 28, 30 and 32 thereon.

Claims 7-11 and 23-27 were rejected under 35 USC §103(a) as being unpatentable over Meskanen as applied to claim 1 in view of U.S. Patent No. 6,181,943 to Kuo (hereinafter Kuo). According to the Office Action, Meskanen teaches all of the elements of claims 7-11 and 23-27 except for teaching inter-frequency. Therefore, the Office Action combined the teachings of Meskanen and Kuo to yield all of the elements of claims 7-11 and 23-27. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in claims 1 and 17, upon which claims 7-11 and 23-27 depend.

Kuo discloses an apparatus and method which, in a wireless communication system, improve the quality of inter-frequency hand-offs from an existing call connection frequency to a new frequency by minimizing oscillating inter-frequency hand-offs between the existing call connection frequency and the new frequency, and by minimizing redundant and unnecessary tuning and searching at the new frequency.

Kuo does not cure any of the deficiencies of Meskanen, as outlined above. Specifically, Kuo does not teach or suggest adjusting, before the control information is received, at least one element of the control information according to a predetermined time pattern including time elements having a characteristic profile in terms of the state

of the mobile communication system, thus forming adjusted control information, as recited in claims 1 and 17 upon which claim 7-11 and 23-27 depend. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Meskanen nor Kuo, whether taken singly or combined, teaches or suggests each feature of claims 1 and 17 and hence, dependent claims 7-11 and 23-27 thereon.

Claims 6 and 22 were rejected under 35 USC §103(a) as being unpatentable over Meskanen in view of U.S. Patent Publication No. 2002/0173275 to Coutant (hereinafter Coutant). According to the Office Action, Meskanen teaches all of the elements of claims 6 and 22 except for teaching the use of different carrier frequency for planning a radio resource control method in a mobile communication system. Therefore, the Office Action combined the teachings of Meskanen and Coutant to yield all of the elements of claims 6 and 22. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in claims 1 and 17, upon which claims 6 and 22 depend.

Coutant disclose a telecommunication network that includes at least one terminal able to switch from idle mode to dedicated mode when a communication is established. The network also includes a plurality of cells on which the terminal can camp in idle mode or dedicated mode and controlled by base stations intended to manage such a switching when a communication is established.

Coutant does not cure any of the deficiencies of Meskanen, as outlined above. Specifically, Coutant does not teach or suggest adjusting, before the control information is received, at least one element of the control information according to a predetermined time pattern including time elements having a characteristic profile in terms of the state of the mobile communication system, thus forming adjusted control information, as recited in claims 1 and 17 upon which claim 6 and 22 depend. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Meskanen nor Coutant, whether taken singly or combined, teaches or suggests each feature of claims 1 and 17 and hence, dependent claims 6 and 22 thereon.

Claims 13, 15, 29, and 31 were rejected under 35 USC §103(a) as being unpatentable over Meskanen in view of U.S. Patent Publication No. 2002/0147262 to Lescuyer. According to the Office Action, Meskanen teaches all of the elements of claims 13, 15, 29, and 31 except for teaching idle states for planning a radio resource control method in a mobile communication system. Therefore, the Office Action combined the teachings of Meskanen and Lescuyer to yield all of the elements of claims 6 and 22. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in claims 1 and 17, upon which claims 13, 15, 29, and 31 depend.

Lescuyer discloses communication systems and methods for allowing a single mode mobile terminal to support mobile assisted signal strength measurement operations in both a fixed frequency reuse based communication network and an adaptive channel

allocation based communication network. Lescuyer does not cure any of the deficiencies of Meskanen, as outlined above. Specifically, Lescuyer does not teach or suggest adjusting, before the control information is received, at least one element of the control information according to a predetermined time pattern including time elements having a characteristic profile in terms of the state of the mobile communication system, thus forming adjusted control information, as recited in claims 1 and 17 upon which claim 13, 15, 29, and 31 depend. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Meskanen nor Lescuyer, whether taken singly or combined, teaches or suggests each feature of claims 1 and 17 and hence, dependent claims 13, 15, 29, and 31 thereon.

As noted previously, claims 1-33 and 35-38 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-33 and 35-38 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Arlene P. Neal

Registration No. 43,828

Customer No. 32294

SQUIRE, SANDERS & DEMPSEY LLP

14TH Floor

8000 Towers Crescent Drive

Tysons Corner, Virginia 22182-2700

Telephone: 703-720-7800

Fax: 703-720-7802

APN:ksh

Enclosures: Request for Continued Examination (RCE) Transmittal
Additional Claim Fee Transmittal
Petition for Extension of Time
Check No. 16783